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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/589,869	12/14/2006	Theodoor M. Slaghek	1328-31	3774
23117	7590	10/02/2009	EXAMINER	
NIXON & VANDERHYE, PC			CALANDRA, ANTHONY J	
901 NORTH GLEBE ROAD, 11TH FLOOR			ART UNIT	PAPER NUMBER
ARLINGTON, VA 22203			1791	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/589,869	<b>Applicant(s)</b> SLAGHEK ET AL.
	<b>Examiner</b> ANTHONY J. CALANDRA	<b>Art Unit</b> 1791

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 1 september 2009.  
 2a) This action is FINAL.      2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-5,7 and 10-18 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-5,7 and 10-18 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO/1449)  
 Paper No(s)/Mail Date \_\_\_\_\_

4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_

5) Notice of Informal Patent Application  
 6) Other: \_\_\_\_\_

***Detailed Office Action***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/1/2009 has been entered.

Claims 1, 17 and 18 have been amended. Claims 6, 8 and 9 are canceled. Claims 1-6, 7 and 10-18 are pending.

***Response to Arguments***

The objection to claim 14 has been withdrawn.

Applicant's arguments filed 9/1/2009 have been fully considered but they are not fully persuasive.

***Applicant argues that the examiner assertion that decreasing bleaching time would decrease brightness is not supported by substantial evidence and is based purely on speculation.***

The examiner respectfully disagrees with the applicant's assessment of a lack of substantial evidence. At time = 0 before any peroxide has been added, the hair has not been bleached. At a time of 24 hrs ANDERS states that the hair is fully white. Both of these facts are supported by

the record. Therefore as time goes from 0 to 24 hrs the hair undisputedly progresses from unbleached to fully white bleached. As time increases from 0 to 24 hrs it would be expected that the hair will become further and further bleached. Time of reaction is a clear result effective variable.

*Applicant argues that it can only be speculated that the proper pH would be between 9-11.*

ANDERS describes that alkalinity should be adjusted [lines 79-80]. pH adjustments are well within the ordinary skill in the art and it would be obvious to optimize the pH of the treatment through routine experimentation. Further, ammonia is a weak base and gives a hint towards the lower end of the scale as compared to NaOH which is a strong base. [see e.g. *strong and weak bases* for substantial evidence thereof].

In any case the examiner combined ANDERS with DIAS to provide both a pH and time for alkaline bleaching.

*Applicant argues that DIAS while disclosing a shorter treatment time only applies to acid treatment.*

The examiner agrees that DIAS does not explicitly state that the alkaline treatment time is short it implicitly teaches a short treatment time. The treatment is for human hair, as stated by the applicant. It would be an extreme conclusion that a man or woman getting their hair bleached

would bleach it for over 16 hrs. To remove any doubt, the examiner has withdrawn the rejection, however in light of newly presented art NISHINO, the claims are rejected. NISHINO teaches bleached of both cellulosic and animal hair fibers at the claimed pH and the claimed time range.

**Applicant argues that 20-30% is an unexpected technical effect and that while Akitaro embodies the selected range the inventors found that said sub-range has additional advantages.**

The examiner agrees that the 20-30% range showed unexpected technical result as compared to 0, 5 and 10% in Figure 5. Akitaro teaches 15-85% animal fiber range. To show that the effect is unexpected compared to Akitaro's range the applicant would have to show that the remainder of the range of Akitaro such as 40%, 50% and 60% animal fibers does not show the same unexpected result as compared to the claimed sub-range. There must be a nexus between the unexpected result and the limitation or range claimed.

Further, upon review at the translations branch Akitaro teaches the specific embodiment of 20% wool hair fibers and 80% cellulosic (hemp) fibers. The examiner has submitted the document to the translations branch for a complete human translation.

特開平3-174041(5)

(表C)

wool hair  
hemp type fibers

組成	実施例2	比較例2
羊毛	20部	5
マニラ麻	80部	100部
織構強度向上剤	0.8部	0.6部
重さ (g/m <sup>2</sup> )	21.9	21.0
厚さ (mm)	0.061	0.048
密度 (g/cc)	0.359	0.457
引張強度 (絞)	1.78	1.94
引張強度 (横)	0.50	0.54
伸び (絞) %	21.7	19.5
伸び (横) %	8.1	6.5
温潤強度 (絞)	0.50	0.68

なお、引張強度及び温潤強度はkg/1.5mm幅で  
測定したものである。

*Double Patenting*

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

1. Claims 1-14 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 2, 4, 5, and 8-11 of copending Application No. 11/628,715. Although the conflicting claims are not identical, they are not patentably distinct from each other because the copending and instant application both disclose a method for treating animal fibers which are not patentably distinct from each other. The use of the bleached fibers of the instant claimed invention is an intended use and therefore has not been given patentable weight. Further a mixture of cellulose with fibers is a composite material.

Instant claims 1-3 and 14: see copending claims 1, 2, 4, 5 and 11. The copending application does not mention treatment time. However, time is a common and well known variable that would be obvious to optimize to the person of ordinary skill in the art. Peroxide is a common and well-known bleaching agent.

Instant claims 6 and 7: see copending claims 4 and 5.

Instant claims 12 and 13: see copending claims 8-10.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

#### *Claim Rejections - 35 USC § 103*

2. Claims 1, 4-9 and 11-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 1,331,609 ANDERS, hereinafter ANDERS, in view of Japanese Publication JP 3-174041 AKITARO et al., hereinafter AKITARO and, if necessary, U.S. Patent 6,120,556

NISHINO, hereinafter NISHINO, or in the alternate, AKITARO in view of ANDERS and, if necessary NISHINO.

Examiner shall refer to the patent abstract of the Japanese Publication from esp@cenet.

As for claims 1 and 7, ANDERS discloses a process for bleaching animal hair to a uniform shade [column 1 lines 9-15].

ANDERS discloses that cow and pig hair can be treating hair in an oxidizing solution which comprises hydrogen peroxide (*subjecting mammalian hair to an oxidation treatment in which the hair is contacted with a solution, which comprises a bleaching agent* [lines 75-80]).

ANDERS discloses that the hair is then washed in a bath comprising acetic acid or soap; thereby the hair is separated from the oxidizing solution (*separating the oxidized hair from the solution* [lines 80-86]).

It is the examiner's position that once the hair is removed from the washing solution it will begin to dry. Drying is an obvious process occurs when an object is removed from a water source and left in air. Additionally, ANDERS discloses that the hair may then treated with formaldehyde. Formaldehyde is a volatile substance and therefore acts to dry the hair (*drying the separated hair* [pg. 2 lines 1-5])

The examiner finds the person of ordinary skill in the art to be a chemist or a chemical engineer (Graham factor 3). A chemist or a chemical engineer would instantly recognize that time and the amount of a reaction that has occurred are related. In bleaching or oxidizing at Time=0 it is known that no reaction has occurred. At some point in time in the future, Time=comp, the bleaching/oxidation reaction will proceed to completion. Between T=0 and

T=comp the amount of reaction that has occurred will increase. At the time of the invention it would have been obvious to optimize the time of reaction to the person of ordinary skill in the art to balance the amount of reaction that will occur with the cost of equipment of bleaching (longer time = larger equipment necessary and thus higher costs). The person of ordinary skill in the art would expect at lower time for less oxidation to occur and therefore be of lower brightness.

In ANDERS the hair after treatment is perfect white [pg. 1 line 37] after 24 hrs. It would be expected that the fibers would be somewhat less white after a treatment 5 minutes - 16 hrs. In contrast the applicant's specification does not state how white the animal hair is made. The person on ordinary skill in the art further has other parameters which could possibly optimized such as temperature (increasing temperature increases reaction rate and thus decreases time) or increasing peroxide concentration (increasing peroxide concentration increases the amount of reaction occurring and hence would decrease time). Such optimizations are known to the person of ordinary skill in the art by elementary kinetic theory.

In the alternate, if necessary, NISHINO teaches a bleaching treatment of cellulose fibers or animal hair [pg. 5 column 2 lines 64-65] for paper making pulps [column 1 lines 20-35]. NISHINO discloses an alkaline process ranging from a pH of 9-11 [column 10 lines 20] using peroxide [column 10 line 5]. NISHINO discloses the treatment time of 15-180 minutes [column 10 line 19]. At the time of the invention it would have been obvious to bleach the animal fibers of ANDERS as per the method of NISHINO. The person of ordinary skill in the art would be motivated by the lower treatment times required as compared to the process of ANDERS. The person of ordinary skill in the art would also be motivated by preventing the decomposition of peroxide [column 1 lines 43-55]

ANDERS does not disclose a use for the animal fibers after they have been bleached.

AKITARO discloses that animal fibers can be cut to 3-10 mm in length which overlaps with the instant claimed range (*subjecting the dried hair to a treatment in which the hair is formed into a particulate material having an average particle size in the range of from 0.5 to 4 mm [abstract]*). The animal hair fibers are subsequently added to cellulose pulp and then formed into paper.

At the time of the invention it would be obvious to a person of ordinary skill in the art to use the bleached animal fibers of ANDERS in the paper product making process of AKITARO. It is *prima facie* obvious to apply a known technique to a known product ready for improvement to yield predictable results. In the instant case it would have been obvious to improve a known product such as bleached animal fibers by incorporating them into a value added product such as paper. A person of ordinary skill in the art would expect the animal fibers to work in the process of AKITARO whether they were bleached or not bleached.

In the alternative, it would have been obvious to bleach the animal fibers used in the paper of AKITARO by the process of ANDERS. A person of ordinary skill in the art would be motivated to do so to have fibers which are whiter and have a higher brightness. Whiteness and brightness are both desirable properties of paper. It is *prima facie* obvious to use known techniques to improve similar products in the same way. In the instant case animal fibers would be improved by bleaching them. A person of ordinary skill in the art would expect the fibers of AKITARO to be bleached.

As for claims 4 and 5, ANDERS discloses hydrogen peroxide, perborates, and percarbonates [lines 97-107].

As for claim 11, ANDERS discloses that the hair can first be washed prior to treatment [lines 57-60].

As for claims 12 and 13, ANDERS discloses both pigs and cows [lines 11 and 12].

As for claim 14, hairs are fibers and therefore the particulate matter of hairs also comprises fibers. Additionally once mixed with cellulose pulp said cellulose are also fibers.

As for claims 15-17, the combination of ANDERS and AKITARO forms a pulp product and a paper product that is substantially the same as the instant claim or would be an obvious variant thereof. Paperboard is well known in the art as a thicker paper sheet; at the time of the invention it would have been obvious to a person of ordinary skill in the art to optimize paper thickness to obtain a paperboard.

As for claim 18, ANDERS/AKITARO and if necessary, DIAS, teach the product as per above. AKITARO further teaches that teaches 85:15-10:90 animal fibers to cellulose fiber, therefore AKITARO teaches the overlapping range of 10%-85%. AKITARO further teaches the paper product with 20% of animal hair fibers (wool) and 80% cellulosic fibers (hemp).

特開平3-174041(5)

(表C)

	実施例2	比較例2
羊毛	20部	5
マニラ麻	80部	100部
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重さ (g/m <sup>2</sup> )	21.9	21.0
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引張強度 (絞)	1.78	1.94
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湿潤強度 (絞)	0.50	0.68

なお、引張強度及び湿潤強度はkg/15mm幅で  
測定したものである。

3. Claims 2, 3, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 1,331,609 ANDERS, hereinafter ANDERS Japanese Publication JP 3-174041 AKITARO et al and if necessary, U.S. Patent 6,120,556 NISHINO, hereinafter NISHINO as applied to claim 1 above, and further in view of Handbook for Pulp and Paper Technologists by SMOOK, hereinafter SMOOK.

As for claim 10, AKITARO discloses that the animal fibers should be 3-10 mm in length and that said fibers are mixed with cellulose. SMOOK discloses that prior to papermaking pulp can be subjected to refining which alters the fibers and always shortens them to a certain extent [pg. 197 column 2]. At the time of the invention it would have been *prima facie* obvious to refine the animal and cellulose fibers prior to paper making. A person of ordinary skill in the art

would be motivated to do so to obtain optimum strength development and control stock freeness [pg. 205 column 1].

As for claims 2 and 3, AKITARO discloses that the fibers can be 3-10 mm in length. The endpoint of 3 mm of the range is the same endpoint of instant claim 2. As for instant claim 3, the prior art range is exclusive but close to the instant claim range. It is the examiner's position that the refining process of SMOOK will further serve to cut the fibers and cause said fibers to have lengths less than 3mm. In the alternative, the claimed ranges are close enough that one skilled in the art would have expected them to have the same properties and therefore a *prima facie* case of obviousness would exist absent evidence of unexpected results.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANTHONY J. CALANDRA whose telephone number is (571) 270-5124. The examiner can normally be reached on Monday through Thursday, 7:30 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on (571) 272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Anthony J Calandra/  
Examiner, Art Unit 1791

/Eric Hug/  
Primary Examiner, Art Unit 1791